| | 0590 | (|
|------|--|-------------|
| af i | CRF E S Corrected by the STIC System Branch 205 Number: 09 990,385 Edited by: 12/3 | |
| | Changed a file from non-ASCII to ASCII | STIC |
| | Changed the margins in cases where the sequence text was 'wrapped' down to the next line. | |
| | Edited a format error in the Current Application Data section, specifically \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | |
| | Edited the Current Application Data section with the actual current number. The number inputted b applicant was the prior application data; or other | y the |
| | Added the mandatory heading and subheadings for "Current Application Data". | • |
| | Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an int | logor. |
| | Changed the spelling of a mandatory field (the headings or subheadings), specifically; | |
| | Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: | |
| | Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: | |
| | Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place. | 10 |
| | Inserted colons after headings/subheadings. Headings edited included: | |
| | Deleted extra, invalid, headings used by an applicant, specifically: | |
| | Deleted: non-ASCII "garbage" at the beginning/end of files; secretary initials/filename at en page numbers throughout text; other invalid text, such as | |
| | Inserted mandatory headings, specifically: | |
| | Corrected an obvious error in the response, specifically: | |
| | Edited identifiers where upper case is used but lower case is required, or vice versa. | |
| | Corrected an error in the Number of Sequences field, specifically: | |
| - | A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted. | |
| d | Deleted <i>endIng</i> stop codon in amino acid sequences and adjusted the *(A)Length:* field accordingly due to a PatentIn bug). Sequences corrected: | error |
| | Other: Corrected the misalignment of amino acid numberity. | |
| | | |

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

OIPE

```
DATE: 12/03/2001
                      RAW SEQUENCE LISTING
                      PATENT APPLICATION: US/09/990,385
                                                                TIME: 14:31:03
                      Input Set : A:\yanai sequence listing.txt
                                                                       Does Not Comply
                      Output Set: N:\CRF3\11212001\1990385.raw
                                                                       Corrected Diskette Needed
                      SEQUENCE LISTING
       4 (1) GENERAL INFORMATION:
                                                                          poror on p. 4
              (i) APPLICANT: Koji YANAI et al.
             (ii) TITLE OF INVENTION: BETA-FRUCTOFURANOSIDASE AND ITS GENE, METHOD OF
       6
       7
                                       ISOLATING BETA-FRUCTOFURANOSIDASE GENE, SYSTEM FOR
PRODUCING
       8
                                       BETA-FRUCTOFURANOSIDASE, AND BETA-FRUCTOFURANOSIDASE
VARIANT
       9
            (iii) NUMBER OF SEQUENCES: 35
     10
             (iv) CORRESPONDENCE ADDRESS:
     11
                   (A) ADDRESSEE: Wenderoth, Lind & Ponack, L.L.P.
     12
                   (B) STREET: 2033 K Street, N.W., Suite 800
     13
                   (C) CITY: Washington
     14
                   (D) STATE: D.C.
     15
                   (E) COUNTRY: U.S.A.
     16
                   (F) ZIP: 20006
     17
              (V) COMPUTER READABLE FORM:
     18
                   (A) MEDIUM TYPE: Diskette, 3.5 inch, 1.44 mb
     19
                   (B) COMPUTER: IBM Compatible
     20
                   (C) OPERATING SYSTEM: MS-DOS
     21
                   (D) SOFTWARE: Wordperfect 5.1
     22
             (Vi) CURRENT APPLICATION DATA:
C--> 23
                   (A) APPLICATION NUMBER: US/09/990,385
C--> 24
                   (B) FILING DATE: 23-Nov-2001
     25
            (vii) PRIOR APPLICATION DATA:
     26
                   (A) APPLICATION NUMBER: 09/142,623
     27
                   (B) FILING DATE: September 10, 1998
     28
          (viii) ATTORNEY/AGENT INFORMATION:
     29
                   (A) NAME: Lee Cheng
     30
                   (B) REGISTRATION NUMBER: 40,949
     31
                   (C) REFERENCE/DOCKET NUMBER: 2001-1611
     32
            (ix) TELECOMMUNICATION INFORMATION:
     33
                   (A) TELEPHONE: 202-721-8200
                   (B) TELEFAX: 202-721-8250
     34
ERRORED SEQUENCES
     35 (2) INFORMATION FOR SEQ ID NO: 1:
     36
             (i) SEQUENCE CHARACTERISTICS:
     37
                  (A) LENGTH: 635 amino acid residues
     38
                  (B) TYPE: amino acid
     39
                  (C) STRANDEDNESS: Not relevant
W--> 40
                  (D) TOPOLOGY: Not relevant
     41
            (ii) MOLECULE TYPE: protein
     42
            (vi) ORIGINAL SOURCE:
     43
                  (A) ORGANISM: Microorganism: Aspergillus niger ACE-2-1
     44
```

(ATCC 20611)

45 (ix) FEATURE:

RAW SEQUENCE LISTING DATE: 12/03/2001 PATENT APPLICATION: US/09/990,385 TIME: 14:31:03

Input Set : A:\yanai sequence listing.txt
Output Set: N:\CRF3\11212001\I990385.raw

| 46 47 | | | | | | | mat | | tide | | | | | | | |
|----------|-------|-------------|------|------|------------|-----|-------|----------|----------|-----------|-----------|----------|-------|------|------------|-------|
| 48 | | | | | | | | | THOD | · F | | | | | | |
| 49 | | (xi |) SE | | | | | | | | 0: 1 | | | | | |
| | | | | | | | | | | | | | Asn | Leu | Ser | Thr |
| 51 | | • | | | 5 | | | | | 10 | | | | | 15 | |
| 52 | Leu | Pro | Asn | Asn | Thr | Leu | Phe | His | Val | Trp | Arq | Pro | Arq | Ala | His | Ile |
| 53 | | | | 20 | | | | | 25 | • | • | | , | 30 | | _ |
| 54 | Leu | Pro | Ala | Glu | Gly | Gln | Ile | Gly | Asp | Pro | Cys | Ala | His | Tyr | Thr | Asp |
| 55 | | | 35 | | | | | 40 | _ | | _ | | 45 | | | - |
| 56 | Pro | Ser | Thr | Gly | Leu | Phe | His | Val | Gly | Phe | Leu | His | Asp | Gly | Asp | Gly |
| 57 | | 50 | | | | | 55 | | | | . : | 60 | | | - | _ |
| 58 | Ile | Ala | Gly | Ala | Thr | Thr | Ala | Asn | Leu | Ala | Thr | Tyr | Thr | Asp | Thr | Ser |
| 59 | 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| | Asp | Asn | Gly | Ser | | Leu | Ile | Gln | Pro | Gly | Gly | Lys | Asn | Asp | Pro | Val |
| 61 | _ | | | | 85 | | | | | 90 | | | | | 95 | |
| | Ala | Val | Phe | | Gly | Ala | Val | Ile | | Val | Gly | Val | Asn | Asn | Thr | Pro |
| 63 | | | | 100 | _ | | | | 105 | | | | | 110 | | |
| | Thr | Leu | | Tyr | Thr | Ser | Val | | Phe | Leu | Pro | Ile | | Trp | Ser | Ile |
| 65 | | _ | 115 | _ | ~ 3 | _ | | 120 | | _ | _ | | 125 | | | |
| | Pro | | Thr | Arg | GLY | Ser | | Thr | GIn | Ser | Leu | | Val | Ala | Arg | Asp |
| 67 | C1 | 130 | 7 | 7 | Dha | 7 | 135 | T | 3 | 01 | 01 | 140 | **- 7 | -1 | - 1 | _ |
| | 145 | GIY | Arg | Arg | Pne | | гàг | Leu | Asp | GIn | | Pro | Va⊥ | шe | Ala | _ |
| | | Dro | Dha | 7.7. | 17 n 1 | 150 | 17a 1 | шhъ | 31. | Dha | 155 | 3 | D | Dh = | 77_ 7 | 160 |
| 71 | птэ | PIO | Pile | Ата | 165 | ASP | Val | THE | Ald | 170 | Arg | ASP | Pro | Pne | Val | Pne |
| | Δra | Ser | Δla | T.vc | | Acn | Va 1 | Lou | TOU | | TOIL | λαη | Clu | C111 | 175 Val | ת 1 ת |
| 73 | ni 9 | DCI | AIU | 180 | Leu | изь | Val | пеп | 185 | Ser | ьец | изр | GIU | 190 | Val | Ата |
| | Ara | Asn | Glu | | Ala | Val | Gln | G1n | | Va 1 | Δen | Glv | Trn | | Glu | T.17C |
| 75 | 9 | | 195 | | | , u | 0111 | 200 | 2114 | vai | пор | OLY | 205 | 1111 | Giu | цуз |
| | Asn | Ala | | Trp | Tvr | Val | Ala | | Ser | Glv | Glv | Va1 | | Glv | Val | Glv |
| 77 | | 210 | | | -1- | | 215 | | | 0-1 | | 220 | | O-1 | , | 0-1 |
| 78 | Pro | Ala | Gln | Phe | Leu | Tyr | Arq | Gln | Asn | Gly | Gly | | Ala | Ser | Glu | Phe |
| | 225 | | | | | 230 | _ | | | _ | 235 | | | | | 240 |
| 80 | Gln | Tyr | Trp | Glu | Tyr | Leu | Gly | Glu | Trp | Trp | Gln | Glu | Ala | Thr | Asn | Ser |
| 81 | | | | | 245 | | | | _ | 250 | | | | | 255 | |
| 82 | Ser | ${\tt Trp}$ | Gly | Asp | Glu | Gly | Thr | Trp | Ala | Gly | Arg | Trp | Gly | Phe | Asn | Phe |
| 83 | | | | 260 | | | | | 265 | | | | | 270 | | |
| 84 | Glu | Thr | Gly | Asn | Val | Leu | Phe | Leu | Thr | Glu | Glu | Gly | His | Asp | Pro | Gln |
| 85 | | | 275 | | | | | 280 | | | | | 285 | | | |
| | Thr | | Glu | Val | Phe | Val | Thr | Leu | Gly | Thr | Glu | Gly | Ser | Gly | Leu | Pro |
| 87 | | 290 | | | | | 295 | | | | | 300 | | | | |
| | | Val | Pro | Gln | Val | | Ser | Ile | His | Asp | Met | Leu | Trp | Ala | Ala | Gly |
| | 305 | _ | _ | _ | | 310 | | | | | 315 | | | | | 320 |
| | GLu | Val | Gly | Val | | Ser | Glu | Gln | Glu | | Ala | Lys | Val | Glu | Phe- | Ser |
| 91 | _ | - | | | 325 | | _ | _ | | 330 | | | | | 335 | |
| | Pro | ser | мet | | GTA | Phe | Leu | Asp | | GТУ | Phe | Ser | Ala | | Ala | Ala |
| 93 | 7 T - | a 1 | T | 340 | . . | 5 | | _ | 345 | | | ~ | _ | 350 | _ | |
| 94 | ата | GTA | ьуs | ٧aı | Leu | Pro | Ala | Ser | Ser | Ala | Val | Ser | Lys | Thr | Ser | Gly |

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/990,385

DATE: 12/03/2001 TIME: 14:31:03

Input Set : A:\yanai sequence listing.txt
Output Set: N:\CRF3\11212001\1990385.raw

355 360 96 Val Glu Val Asp Arg Tyr Val Ser Phe Val Trp Leu Thr Gly Asp Gln 375 98 Tyr Glu Gln Ala Asp Gly Phe Pro Thr Ala Gln Gln Gly Trp Thr Gly 390 395 100 Ser Leu Leu Pro Arg Glu Leu Lys Val Gln Thr Val Glu Asn Val 405 410 102 Val Asp Asn Glu Leu Val Arg Glu Glu Gly Val Ser Trp Val Val Gly 420 425 104 Glu Ser Asp Asn Gln Thr Ala Arg Leu Arg Thr Leu Gly Ile Thr Ile 435 440 106 Ala Arg Glu Thr Lys Ala Ala Leu Leu Ala Asn Gly Ser Val Thr Ala 450 455 460 108 Glu Glu Asp Arg Thr Leu Gln Thr Ala Ala Val Val Pro Phe Ala Gln 109 465 470 475 110 Ser Pro Ser Ser Lys Phe Phe Val Leu Thr Ala Gln Leu Glu Phe Pro 485 490 112 Ala Ser Ala Arg Ser Ser Pro Leu Gln Ser Gly Phe Glu I<u>le Le</u>u Ala — misaligned numbering note: pls. wesPacebar 500 505 **510** 114 Ser Glu Leu Glu Arg Thr Ala Ile Tyr Tyr Gln Phe Ser Asn Glu Ser instead of tab key 520 525 116 Leu Val Val Asp Arg Ser Gln Thr Ser Ala Ala Pro Thr Asn Pro 535 540 118 Gly Leu Asp Ser Phe Thr Glu Ser Gly Lys Leu Arg Leu Phe Asp Val 119 545 550 120 Ile Glu Asn Gly Gln Glu Gln Val Glu Thr Leu Asp Leu Thr Val Val 121 565 570 122 Val Asp Asn Ala Val Val Glu Val Tyr Ala Asn Gly Arg Phe Ala Leu 580 585 124 Ser Thr Trp Ala Arg Ser Trp Tyr Asp Asn Ser Thr Gln Ile Arg Phe 595 600 126 Phe His Asn Gly Glu Gly Glu Val Gln Phe Arg Asn Val Ser Val Ser 610 615 128 Glu Gly Leu Tyr Asn Ala Trp Pro Glu Arg Asn 129 625 630

VERIFICATION SUMMARY

DATE: 12/03/2001 PATENT APPLICATION: US/09/990,385 TIME: 14:31:04

Input Set : A:\yanai sequence listing.txt Output Set: N:\CRF3\11212001\1990385.raw

L:23 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:] L:24 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:] L:40 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=1 L:113 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:1 L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 L:269 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=8 L:279 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=9 L:354 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=11 L:485 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=13 L:617 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=15 L:627 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=16 L:637 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=17 L:647 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=18 L:657 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=19 L:667 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=20 L:677 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=21 L:687 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=22 L:697 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=23 L:707 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=24 L:717 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=25 L:727 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=26 L:737 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=27 L:747 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=28 L:757 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=29 L:767 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=30 L:777 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=31 L:787 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=32 L:797 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=33 L:807 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=34 L:817 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=35